

ABSTRACT OF THE DISCLOSURE

5 A tape drive for use with magnetic tapes includes a housing for
receiving a magnetic tape having multiple parallel tracks, and a tape head for
reading and writing the parallel tracks of the magnetic tape. A plurality of partial
response maximum likelihood (PRML) equalization/detection channels are provided
for processing the data signals to determine the data stream for each data signal.
The plurality of PRML equalization/detection channels includes at least one PRML
10 equalization/detection channel pre-assigned to each track. The plurality of PRML
equalization/detection channels further includes at least one floating PRML
equalization/detection channel dynamically assignable on an as-needed basis. The
invention also contemplates an ASIC, a generic drive, and a PRML method.

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jeremy 9/7/2003

sandy b 11/4/03 (abstract 112 words)